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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/457,173	12/08/1999	JAMES D. JACOBSON	JACOB100	7379

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BRADFORD R L PRICE
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EXAMINER

KIM, SUN U

ART UNIT PAPER NUMBER

1723

DATE MAILED: 08/09/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/457,173

Applicant(s)
Jacobson

Examiner
John Kim

Art Unit
1723



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Jul 26, 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-102 is/are pending in the application.
- 4a) Of the above, claim(s) 6-13 and 31-101 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 14-30, and 102 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 17 6) ☐ Other: _____

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1. Claims 6-13 and 31-101 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention, the requirement having been traversed in Paper No. 6.
2. Claims 1-5, 14-18, 21-30 and 102 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,753,014 (hereinafter referred to as Van Rijn) in view of U.S. Patent No. 6,264,044 (hereinafter referred to as Meyering et al) or U.S. Patent No. 5,275,725 (hereinafter referred to as Ishii et al). Van Rijn teaches a membrane filter comprising a polymeric filter layer made of polyamide (etchable and photosensitive) including etched micron-scaled precision shaped pores of square, circular, or elongated cross section and a polymeric support layer made including multiple support layers with different pore sizes wherein the support layer is thicker than the filter layer, pore size ranges from 5 nanometers to 50 microns and filter layer is used to remove leukocytes (see figures 1, 9-15b, 31-34; col. 1, line 57 - col. 9, line 5; col. 11, line 22 - col. 13, line 14). Van Rijn further teaches that filter layer and support layer are constituted from equivalent materials with the same or similar components and the filter of this kind is applicable in a wide temperature range with a good cohesion between the support and the membrane. Claims 1-5, 14-18, 21-30 and 102 essentially differ from the membrane filter of Van Rijn in reciting that the membrane is monolithic. Monolithic as stated by applicant means that there is no discernible lines of distinction between the filter and support layers. Meyering et al teach that a monolithic membrane filter wherein microporous membrane structure is continuous structure even in the presence of the reinforcing scrim i.e. porous support in that the fiber strains

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of scrim constitute a network between which the microporous membrane structure is continuous and penetrating and the scrim and the microporous membrane form continuous interpenetrating networks of their respective polymeric structure to be structurally integral (see col. 6, lines 21-58; col. 5, lines 9-64; col. 7, line 57 - col. 8, line 13; col. 11, line 6 - col. 12, line 3; col. 25, lines 22-26) and such integral membrane provides unexpectedly high flow rates for a given differential pressure and also characterized by durability, strength, uniformity, lack of pinholes and bubble defects (see col. 9, lines 61-66). Ishii et al teach a membrane filter wherein polymeric membrane is heat fused into polymeric support layer to form an integrated membrane (see col. 9, line 62 - col. 13, line 8) wherein the membrane can be bonded to the support by the anchoring effect wherein the membrane-forming polymer solution penetrated into the nonwoven fabric constituting the surface layer of the support is arrested by the fibers after gelation (see col. 11, line 60 - col. 12, line 14) and such integrated membrane is free from wrinkles which causes a breakage (see col. 12, line 62 - col. 13, line 5). It would have been obvious to a person of ordinary skill in the art to fuse a polymeric membrane into a polymeric support to form an integrated membrane (i.e. monolithic membrane) for providing a membrane for unexpectedly high flow rates for a given differential pressure and characterized by durability, strength, uniformity, lack of pinholes and bubble defects and a stronger membrane free from wrinkles as suggested by Meyering et al or Ishii et al.

3. Claims 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Rijn in view of Meyering et al or Ishii et al as applied to claim 1 above, and further in view of U.S. Patent

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No. 5,807,406 (hereinafter referred to as Brauker et al). Claims 19-20 essentially differ from the apparatus of Van Rijn in reciting that polymeric material of filter layer and support layer is an etchable or photosensitive polyimide material. Van Rijn teaches a membrane filter made of polyamide which is etchable or photosensitive. Brauker et al teaches a porous microfabricated polymer membrane structure made of etchable or photosensitive polyimide (see abstract). It would have been obvious to a person of ordinary skill in the art to substitute polyimide for polyamide of Van Rijn as a filter and a support layer since these materials are in a similar class of polymer and possessing characteristics of being etchable or photosensitive.

4. Applicant's arguments with respect to claims 1-5 and 14-30 have been considered but are moot in view of the new grounds of rejection. Applicant argues that there is no teaching or suggestion in Ishii of making the filter structure from the same original sheet or film or from separate films that are joined in a non-fully cured state and then fully cured to form a single filter membrane and support structure with no discernible line of distinction. However, such process of making monolithic membrane has not been claimed in the product claim.

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent No. 4,340,479 teaches an integrated membrane on a porous support.

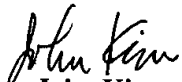
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Kim whose telephone number is (703) 308-2350. The examiner can normally be reached on weekdays from 7:00 AM - 3:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker, can be reached on (703) 308-0457. The fax phone number for official response after final action is (703) 872-9311, and the fax phone number for all other official faxes is (703) 872-9310.

When sending a draft amendment by fax, please mark the paper as "DRAFT"; otherwise, mark the paper "OFFICIAL". This will expedite the processing of the paper.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0651.


John Kim
Primary Examiner
Art Unit 1723

J. Kim
August 7, 2002